

Claims

What is claimed is:

1. A process for the preparation of radiolabelled H_3BCO comprising contacting H_3B in a suitable solvent with carbon monoxide, characterised in that the carbon monoxide is radiolabelled.
2. A process according to claim 1, wherein the process is carried out in the presence of a suitable base.
3. A process according to claims 1 or 2, wherein the production of radiolabelled H_3BCO is promoted by removal of free solvent from the mixture.
4. A process according to claim 3, wherein removal of free solvent from the mixture is promoted by condensation.
5. A process according to any one of claims 1 to 4, wherein the solvent comprises any ether or tetrahydrofuran.
6. A process according to any one of claims 1 to 5, wherein the solvent comprises diethyl ether, dioxane or tetrahydrofuran.
7. A process according to any one of claims 1 to 6, wherein the solvent is tetrahydrofuran.
8. A process according to any one of claims 1 to 7, wherein the base is triethylamine, N-Methyldibutylamine, M-Methyl-2,2,6,6-tetramethylpiperidine or N,N-di-isopropyl-ethylamine (DIPEA).
9. A process according to any one of claims 1 to 8, wherein the carbon monoxide is radiolabelled with ^{11}C , ^{13}C , ^{14}C , ^{15}O or ^{18}O .
10. A process according to claim 9, wherein the radiolabel is ^{11}C .

11. A process for preparing radiolabelled compounds by carbonylation using radiolabelled H_3BCO prepared according to any one of claims 1 to 10 as a donor of radiolabelled carbon monoxide.
12. A radiolabelled compound prepared using a process according to claim 11.
13. Use of a radiolabelled compound according to claim 12 in imaging techniques.
14. Use according to claim 13, wherein the imaging technique is selected from positron emission tomography, modified single photon emission tomography or autoradiography.
15. Use according to claim 14, wherein the imaging technique is selected from positron emission tomography.
16. A product of a process according to any one of claims 1 to 11.
17. A composition comprising a radiolabelled compound according to claim 12.